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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,407	07/21/2000	William J. Domino	044368.0275	4082

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EXAMINER	
MEHRPOUR, NAGHMEH	

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/621,407	CHRISTOHER
	Examiner	Art Unit
	Naghmeh Mehrpour	2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on 07 January 2005.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-23 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-4, 11-13, 19-20,** are rejected under 35 U.S.C. 102(e) as being anticipated by Koh et al. (US Patent Number 6,397,044).

Regarding **claims 1, 11,** Koh teaches a system for transmitting and receiving data (see figure 2) comprising: a direct-conversion receiver 226 receiving a signal modulated on a carrier frequency signal (col 4 lines 32-41), the direct conversion receiver (col 4 lines 59-61), further comprising: one or more sub harmonic local oscillator (230 + 232) mixers 228 (col 4 lines 58-67, col 5 lines 1-3), a local oscillator 230 coupled to the direct conversion receiver (see figure 2, Rx VCO), the local oscillator 230 generating a signal having a frequency equal to a sub harmonic (phase shifter 232 creates sub harmonic) of the carrier frequency signal (col 5 lines 1-3), and a transmitter 30 coupled to the PLL (functions as a local oscillator) 230 (see figure 2), wherein the PLL 230 is the transmitter (see figure 2, numerals 242, 230, col 4 lines 20-31).

Regarding **claims 2-3, 12-13**, Koh teaches a method wherein mixing 226 the carrier signal with the sub harmonic local oscillator 230 signal to extract the baseband signal further comprises: mixing the carrier signal with the sub harmonic PLL (functions as a local oscillator) 230 signal to extract an in-phase signal 232, phase-shifting 232 the sub harmonic local oscillator 230 signal, and mixing 228 the carrier signal with the phase-shifted 232 sub harmonic local oscillator signal to extract a quadrate phase signal (see figure 2, numerals S1, S2, col 4 lines 32-54). Koh teaches a 90 deg splitter that shifting the phase 232 of the received signals (see figure 2).

Regarding **claims 4, 20,** Koh teaches a system for transmitting and receiving data comprising:

a low noise amplifier LNA 224 receiving a modulated incoming carrier signal having a carrier signal frequency (see figure 2);

a PLL (functions as a local oscillator) 230 generating a signal having a sub harmonic frequency of the carrier signal (col 4 lines 19-30);

a first mixer 226 coupled to the low noise amplifier LNA 224 and the PLL (functions as local oscillator) 230 the first mixer 226 receiving the modulated incoming carrier signal and generating an in-phase incoming data S1 signal (S1, col 4 lines 32-49);

a second mixer 228 coupled to the low noise amplifier LNA 224 and the PLL (functions as a local oscillator) 230, the second mixer 228 receiving the modulated incoming carrier signal and generating a quadrate phase incoming data signal (S2, see figure 2, col 4 lines 4-24, lines 34-49);

a modulator 242 coupled to the PLL (as a local oscillator) 230, the modulator receiving an outgoing data signal and modulating the outgoing data signal onto the PLL (as a local oscillator) 230 signals to generate an outgoing modulated carrier signal (col 4 lines 32-54);

a transmit amplifier 136 coupled to the modulator 242, the transmit amplifier amplifying the outgoing modulated carrier signal to a transmission power level (col 4 lines 4-32).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 5-6, 10, 14-15, 21-22,** are rejected under 35 U.S.C. 103(a) as being unpatentable over Koh et al (US Paten number 6,104,745) in view of Nash et al (US Patent Number 6,397,044 B1).

Regarding **claims 5-6,** Koh fails to teaches a system further comprising a frequency multiplier coupled between the local oscillator and the transmitter, wherein the frequency multiplier increases the frequency of the oscillator. However Nash teaches a system further comprising a frequency multiplier (PLL act as Multiplier) coupled between the local oscillator 31 and the transmitter (col 5 lines 20-40), wherein the frequency multiplier 33 increases the frequency of the oscillator to the frequency of the carrier signal fc (col 5 lines 40-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with of Nash with Koh, in order to prevent LO interference by providing a

transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter.

Regarding **claim 7,** Koh fails to teach system wherein the transmitter comprises: a frequency multiplier coupled phase locked loop acts as a frequency multiplier to the local oscillator, and an in-phase/quadraure modulator coupled to the frequency multiplier, receiving an In-phase modulation input signal and a quadrate modulator input signal, and outputting a quadrate phase shift keyed signal modulated at the multiplied local oscillator frequency. However Nash teaches system wherein the transmitter comprises: a frequency multiplier coupled phase locked loop 33 acts as a frequency multiplier (col 5 lines 31-32) to the local oscillator, and an in-phase/quadraure modulator coupled to the frequency multiplier 33, receiving an In-phase modulation input (RxI) signal and a quadrate modulator input (RxQ) signal (see figure 1, baseband processor and controller), and outputting a quadrate phase shift keyed signal fbb modulated 40 at the multiplied local oscillator frequency 31 (col 5 lines 10-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with of Nash with Koh, in order to prevent LO interference by providing a transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter.

Regarding **claim 8,** Koh fails to teach system wherein the transmitter the transmitter comprises: an in-phase/quadrate modulator coupled to the local oscillator, receiving an In-phase modulation input signal and a Quadrate modulation (Rx Q) input signal, and outputting a quadrate phase

shift keyed signal modulated at the local oscillator frequency, and a frequency multiplier coupled to the in phase/quadrate modulator (Tx Modulation) and multiplying the frequency of the quadrate phase shift keyed signal. Nash teaches system wherein the transmitter the transmitter comprises: an in-phase/quadrate modulator coupled to the local oscillator 22, receiving an In-phase modulation (RxI) input signal and a Quadrate modulation (Rx Q)input signal, and outputting a quadrate phase shift keyed signal modulated 40 at the local oscillator frequency, 22 and a frequency multiplier 33 coupled to the in phase/quadrate modulator (Tx Modulation) and multiplying the frequency of the quadrate phase shift keyed signal fbb (col 5 lines 24-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with of Nash with Koh, in order to prevent LO interference by providing a transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter.

Regarding **claim 19,** Koh fails to teach a method wherein modulating the outgoing data signal with the sub harmonic local oscillator signal comprises: modulating an outgoing in-phase data signal and an outgoing quadrature phase data signal with the sub harmonic local oscillator signal at a sub harmonic modulation index to generate a modulated outgoing data signal, and multiplying the modulated outgoing data signal by an inverse sub harmonic to generate the outgoing data signal. However Nash teaches a method wherein modulating the outgoing data signal with the sub harmonic local oscillator 22 signal comprises: modulating an outgoing in-phase data (Rx I) signal and an outgoing quadrature phase data (RxQ) signal with the sub harmonic local oscillator 22 signal at a sub harmonic modulation index to generate a modulated

outgoing data signal, and multiplying the modulated outgoing data signal by an inverse sub harmonic to generate the outgoing data signal (col 5 lines 20-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with of Nash with Koh, in order to prevent LO interference by providing a transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter.

Regarding **claims 10, 14-15,** Koh modified by Nash teaches a system wherein the transmitter 30 comprises: a phase modulator 40 coupled to the local oscillator 22, where the local oscillator 22 is modulated by the modulator fbb, a voltage-controlled reference oscillator (vctxco) coupled to the phase modulator 40, where the voltage-controlled reference oscillator is modulated by the phase modulator 40, and a phase locked loop 33 coupled to the local oscillator 22 (through via mixer 32) in a feedback loop 33, the phase locked loop 33 further coupled to the voltage controlled oscillator 31 (Nash col 4 lines 30-40). Koh modified by Nash does not disclose a frequency modulator. However Koh system does modulates frequency, which is vary at the rate of the modulating wave from amplitude, which is call phase modulation. Frequency Modulation is a common way of modulating frequencies and is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use above teaching to Koh modified by Nash, in order to use different modulation method for reducing the interference and providing better performance.

Regarding **claims 21-22,** Koh modified by Nash does not specifically mention that the system comprising a telephone handset coupled to the first mixer, and decoding an incoming data signal from in-phase data, quadrate phase incoming data signal, and generating the outgoing data signal. However the examiner takes official notice that a communication system that comprising a telephone handset coupled to the first mixer, and decoding an incoming data signal from in-phase data, and quadrature phase incoming data signal, and generating the outgoing data signal is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with Koh modified by Nash, in order to use different modulation method for reducing the interference and providing better performance.

5. **Claims 9, 16-18**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Koh et al. (US Patent Number 6,104, 745) in view of Nash et al (US Patent Number 6,397,044) in further view of Bickley (US Patent Number 5,152,005).

Regarding **claims 9, 16**, Koh modified by Nash teaches a system wherein the transmitter comprises: a frequency modulator coupled to the local oscillator, wherein the local oscillator is modulated by the frequency modulator, a phase locked loop 33 coupled to the frequency modulator (modulation integrator) and the local oscillator 22. Koh system receives signal at a received frequency, and transmitter being operable to transmit at a transmission frequency, the transmitter frequency being offset from and aligned to, the received frequency by a predetermined frequency spacing (Nash col 2 lines 50-53). Nash teaches in figure 1 mixer 32 is provided to downconvert the frequency of the signal output from the phase locked loop 33. It

mixes signals at its two inputs to generate a signal having a different frequency. One of the input is connected tot he output of the phase locked loop 33 and the other is connected to the receiver local oscillator 22. The frequency 38 is used to switch the offset between the transmit and receive channels the modulator 40 modulates the baseband signal fbb onto the divided reference Fref/R. It is a coupled to the input of the PLL and, to one of the inputs of the phase comparator 36. The modulation process introduces a delay or advance of the edge of the divided reference signal Fref/R by an amount relative to amplitude of the modulated signal. Koh method switches the transmitting and receiving cycle (col 5 lines 3-20). Koh modified by Nash fails to specifically mention that a switch coupled between the local oscillator and the phase locked loop, wherein the switch can couple the phase locked loop to the local oscillator during a transmit cycle and can decouple the phase locked loop from the local oscillator during a receive cycle. However Bickley teaches a synthesizer that switch 55 coupled between PLL 250 and a local oscillator 31, wherein the switch 55 can couple the phase locked loop 250 to the local oscillator 31 during a transmit cycle (see figures 1, 2 col 4 lines 4-11, col 8 lines 15-21) and can decouple the phase locked loop 250 from the local oscillator 31 during a receive cycle (see figures 1, 2, col 4 lines 67-68, col 5 lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Bickley with Koh modified by Nash, in order to reduce the LO leakage from the receiver.to the antenna, for the purpose of reducing interference.

Regarding **claims 17-18**, Koh fails to teach method further comprising opening a phase locked loop during the transmit cycle to lock the sub harmonic local oscillator signal, phase modulating

a reference oscillator signal of a phase locked loop that locks the sub harmonic local oscillator signal. Nash teaches a method further comprising opening a phase locked loop 33 during the transmit cycle to lock the sub harmonic local oscillator 22 signal, phase modulating 40 a reference oscillator signal (vctxco) of a phase locked loop 33 that locks the sub harmonic local oscillator signal (see figure 1, col 4 lines 20-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with of Nash with Koh, in order to prevent LO interference by providing a transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter.

Response to Arguments

6. Applicant's arguments filed 01/07/05 have been fully considered but they are not persuasive.

In response to the applicant's argument that it is impossible to combine Nash, which discloses a separate transmitter and receiver, with Koh, which disclose direct conversion receiver, the examiner asserts that Koh teaches a transceiver that has an antenna, a time division duplexer for coupling the antenna to a transmission path or a receiving path of the transceiver in respective time intervals, and an oscillator for generating an oscillation signal. The receiving path comprises a phase shifter to provide a phase shifted oscillation signal. A first frequency mixer generates a first base band signal by synthesizing the oscillation frequency with a signal received from the time division duplexer. A second frequency mixer generates a second base band signal by synthesizing the phase shifted oscillation frequency with the signal received from the time division duplexer and a demodulator for outputting pseudo noise data by

decoding the two base band signals. The transmitting path has a third frequency mixer for producing to the time division duplexer a modulated transmission signal by synthesizing incoming pseudo noise with the oscillation frequency or the phase shifted oscillation frequency. Koh fails to teaches a system comprising a frequency multiplier coupled between the local oscillator and the transmitter, wherein the frequency multiplier increases the frequency of the oscillator. However, Nash teaches a system further comprising a frequency multiplier (PLL act as Multiplier) coupled between the local oscillator 31 and the transmitter (col 5 lines 20-40), wherein the frequency multiplier 33 increases the frequency of the oscillator to the frequency of the carrier signal fc (col 5 lines 40-61). Therefore, by combing the above teaching with of Nash with Koh, providing a transceiver in which a direct conversion receiver operating from a sub-hormonic local oscillator is slaved to the transmitter.

In response to applicant's argument that there is no suggestion to combine the references Koh and Nash, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Koh teaches a transceiver that has an antenna, a time division duplexer for coupling the antenna to a transmission path or a receiving path of the transceiver in respective time intervals, and an oscillator for generating an oscillation signal. The receiving path comprises a phase shifter to provide a phase shifted oscillation signal. A first frequency mixer generates a first base band signal by synthesizing the oscillation frequency with a signal

received from the time division duplexer. A second frequency mixer generates a second base band signal by synthesizing the phase shifted oscillation frequency with the signal received from the time division duplexer and a demodulator for outputting pseudo noise data by decoding the two base band signals. The transmitting path has a third frequency mixer for producing to the time division duplexer a modulated transmission signal by synthesizing incoming pseudo noise with the oscillation frequency or the phase shifted oscillation frequency. Koh fails to teaches a system comprising a frequency multiplier coupled between the local oscillator and the transmitter, wherein the frequency multiplier increases the frequency of the oscillator. However, Nash teaches a system further comprising a frequency multiplier (PLL act as Multiplier) coupled between the local oscillator 31 and the transmitter (col 5 lines 20-40), wherein the frequency multiplier 33 increases the frequency of the oscillator to the frequency of the carrier signal fc (col 5 lines 40-61). Therefore, by combing the above teaching with of Nash with Koh, providing a transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner asserts that Koh a transceiver that has an antenna, a time division duplexer for coupling the antenna to a transmission path or a receiving path of the

transceiver in respective time intervals, and an oscillator for generating an oscillation signal. The receiving path comprises a phase shifter to provide a phase shifted oscillation signal. A first frequency mixer generates a first base band signal by synthesizing the oscillation frequency with a signal received from the time division duplexer. A second frequency mixer generates a second base band signal by synthesizing the phase shifted oscillation frequency with the signal received from the time division duplexer and a demodulator for outputting pseudo noise data by decoding the two base band signals. The transmitting path has a third frequency mixer for producing to the time division duplexer a modulated transmission signal by synthesizing incoming pseudo noise with the oscillation frequency or the phase shifted oscillation frequency. Koh fails to teaches a system comprising a frequency multiplier coupled between the local oscillator and the transmitter, wherein the frequency multiplier increases the frequency of the oscillator. However, Nash teaches a system further comprising a frequency multiplier (PLL act as Multiplier) coupled between the local oscillator 31 and the transmitter (col 5 lines 20-40), wherein the frequency multiplier 33 increases the frequency of the oscillator to the frequency of the carrier signal fc (col 5 lines 40-61). Therefore, by combing the above teaching with of Nash with Koh, providing a transceiver in which a direct conversion receiver operating from a subhormonic local oscillator is slaved to the transmitter. Koh modified by Nash teaches a system wherein the transmitter comprises: a frequency modulator coupled to the local oscillator, wherein the local oscillator is modulated by the frequency modulator, a phase locked loop 33 coupled to the frequency modulator (modulation integrator) and the local oscillator 22. Koh system receives signal at a received frequency, and transmitter being operable to transmit at a transmission frequency, the transmitter frequency being offset from and aligned to, the received

frequency by a predetermined frequency spacing (Nash col 2 lines 50-53). Nash teaches in figure 1 mixer 32 is provided to downconvert the frequency of the signal output from the phase locked loop 33. It mixes signals at its two inputs to generate a signal having a different frequency. One of the input is connected tot he output of the phase locked loop 33 and the other is connected to the receiver local oscillator 22. The frequency 38 is used to switch the offset between the transmit and receive channels the modulator 40 modulates the baseband signal fbb onto the divided reference Fref/R. It is a coupled to the input of the PLL and, to one of the inputs of the phase comparator 36. The modulation process introduces a delay or advance of the edge of the divided reference signal Fref/R by an amount relative to amplitude of the modulated signal. Koh method switches the transmitting and receiving cycle (col 5 lines 3-20). Koh modified by Nash fails to specifically mention that a switch coupled between the local oscillator and the phase locked loop, wherein the switch can couple the phase locked loop to the local oscillator during a transmit cycle and can decouple the phase locked loop from the local oscillator during a receive cycle. However Bickley teaches a synthesizer that switch 55 coupled between PLL 250 and a local oscillator 31, wherein the switch 55 can couple the phase locked loop 250 to the local oscillator 31 during a transmit cycle (see figures 1, 2 col 4 lines 4-11, col 8 lines 15-21) and can decouple the phase locked loop 250 from the local oscillator 31 during a receive cycle (see figures 1, 2, col 4 lines 67-68, col 5 lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Bickley with Koh modified by Nash, in order to reduce the LO leakage from the receiver to the antenna, for the purpose of reducing interference.

Conclusion

7. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

May 26, 2005

Marsha D Banks-Harold

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